American Chemistry Council | SEHSC Silicones Environmental, Health, and Safety Center

Via CDX Electronic Submission

January 17, 2015/**Resubmission on April 2, 2015 due to issues with original CDX submission**

TSCA Confidential Business Information Center (7407M)
EPA East - Room 6428
Attn: Section 8(e)
U.S. Environmental Protection Agency
1201 Constitution Avenue, NW
Washington, DC 20004-3302

RE: TSCA 8(e) Submission: Dimethylsilanediol (DMSD; CAS No. 1066-42-8) and Trimethylsilanol (TMS; CAS No. 1066-40-6)

Dear TSCA 8(e) Coordinator:

Pursuant to Section 8(e) of the Toxic Substances Control Act (TSCA), the Silicones Environmental, Health, and Safety Center (SEHSC) of the American Chemistry Council hereby submits this letter on behalf of its member companies[1] to inform EPA of certain preliminary findings from "A Screening Environmental Monitoring Study". At this time, neither SEHSC nor any of its member companies has made a determination as to whether a significant risk or injury to health or the environment is actually presented by the findings.

Study Design

The objective of this study was to conduct a screening monitoring study of trimethylsilanol (TMS) and dimethylsilanediol (DMSD) in water collected in the environment. Before the sample collection, a stability experiment was performed for various sample containers, and a suitable sampling container and method were selected for 28-day storage time at room temperature. Based on this method, samples were collected early October, 2014 at Lake Pepin, MN, including 5 water samples (4 samples and 1 backup) from Lake Pepin, 5 water samples from a stream flowing to Lake Pepin through an agricultural area with a history of soil amendment with biosolids, and 5 effluent water samples from Red Wing Waste Water Treatment Plant (WWTP) which discharges directly to Lake Pepin. There were 6 blank samples (3 trip blanks and 3 field blanks) and 3 spiked controls containing 50 µg/L DMSD in Milli-Q water. All blanks, spiked controls and water samples were stored at 4 °C until analysis.

Triplicates of 4 samples from each water type were analyzed for TMS and DMSD by GC/MS after addition of ^{13}C–TMS or ^{13}C-DMSD internal standards. Quality control samples (in triplicate) included 3 trip blanks, 3 field blanks, 2 procedural blanks and 3 spiked controls. Results included adjustment for the

[1] SEHSC is a not-for-profit trade sector group whose mission is to promote the safe use of silicones through product stewardship and environmental, health, and safety research. The Center is comprised of North American silicone chemical producers and importers.

700 2nd Street NE, Washington, DC 20002 | (202) 249.7000

low, consistent response observed in procedural blanks. The maximum time elapsed between sample collection and analysis was 30 days.

Results

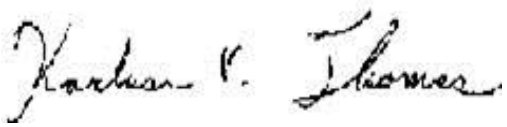
For TMS, low responses similar to that of the procedural blanks were observed for the trip and field blanks, indicating no significant contamination in sample collection, transport and storage. Spiked controls had a recovery of 95.3 ± 1.9 % (9) [(Average ± standard deviation) (No. of samples analyzed)], indicating excellent accuracy and precision. TMS was detected in WWTP effluent at a concentration approximately twice the method detection limit, (MDL) (0.53 µg/L), but less than the limit of quantitation (LOQ) (1.7 µg/L). TMS was not detected in river or lake water at a MDL of 0.53 µg/L.

Similarly for DMSD, responses for the trip, field and procedural blanks were consistently less than the MDL, and the spiked controls had an average recovery of 105.6 ± 5.4% (9). DMSD was found above the LOQ (9.4 µg/L) in WWTP effluent (68 ± 11 µg/L) (14). DMSD was not detected in river water or lake water at a MDL of 2.95 µg/L, with the responses from all samples consistently lower than the procedural blank samples.

At this time, neither SEHSC nor any of its member companies has made a determination as to whether a significant risk or injury to human health or the environment is actually presented by the findings. This information is being submitted in accordance with the Agency's TSCA 8(e) requirements and should therefore discharge any 8(e) responsibilities that might exist.

If you have any questions regarding this submission, please contact me at (202) 249-6197 or karluss_thomas@americanchemistry.com.

Sincerely,



Karluss Thomas
Sr. Director, SEHSC

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